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Achse wodurch sie die Abwechselung des Tages und der Nacht hervorbringt einige Veränderung seit den ersten Zeiten ihres Ursprunges erlitten habe, welches die Ursache davon sey, und woraus man sich ihrer versichern könne? Welche von der Königlichen Akademie der Wissenschaften zu Berlin zum Preise aufgegeben worden, 1754."*

Such a cause he discovers in the motion of the water in the ocean caused by ebb and flood, and though the effect of this may be very small, yet, he observes, as it is for ever and unceasingly in action, a philosopher can never be justified in assuming that it cannot in the lapse of ages become sensible. He then, assuming the water at the equator to have a motion of one foot per second in a direction contrary to that of the Earth's rotation, proceeds to estimate the pressure perpendicular to the plane of a meridian, and thence to deduce the effect of the fluid mass to retard the revolution of the Earth on its axis. His result, it is true, is enormously too great, for he finds that the apparent decrease in the length of the year arising from the real increase in the length of the day would in the course of 2000 years amount to 8½ hours; but however erroneous this result may be, we cannot deny him the credit of having anticipated by a little more than a century (his work was first published in 1754), the hypothesis of M. Delaunay, that the Earth's rotation is sensibly retarded by the effect of the tides.

Meteors observed October 25, 1866, *at Freemantle, West Australia.* By F. B. Duone, Superintendent of Water Police.

(*Communicated by H. M. Lefroy, Esq.*)

On Thursday the 25th October, at about noon, the weather being very fine but sultry, sky clear, the wind light from S.W., a considerable number of apparently small objects were seen from the water police boat at sea between Freemantle and Rottnest, to pass over head in a direction from S.W. to N.E. I recognised them at once to be meteoric bodies, some were followed by luminous trains, others not so. One very remarkable one, which particularly riveted my attention, appeared a uniformly round body and very like the planet *Venus* when seen by daylight above the period of her greatest elongation. It would be impossible to judge of their height; their rate of motion, I should say, would be about 2°, or four times the diameter of the Moon, in a second. The appearance of all was the same, that of star-like bodies seen by daylight,

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* Whether the Earth's diurnal rotation has at any time been exposed to any change, what may be the cause of such change, and how can we be assured of its reality? Prize question proposed by the Royal Academy of Berlin, 1754.

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some with, and others without the luminous train; in short, just what I should imagine would be the effect of a meteoric shower seen by daylight in a very clear atmosphere, and under a cloudless sky. The phenomenon was observed for about half an hour, and frequently two or three of the bodies passed at the same time. We had found the heat of the forenoon very oppressive. I may add, that during the whole display the sky was filled with a phosphorescence so strong that it gave considerable light to the Earth. A river at some distance, which in the clearest moonless nights is invisible from here, glistened quite brightly, even when scarce a star was to be seen through the clouds.

Observation of the Meteoric Shower of November 13–14, 1866, *at the Observatory of Trinity College, Dublin.* By F. Brunnow, Astronomer Royal for Ireland.

The display of the meteors on the night of the 13th of November was seen here in all its splendour, as the night with the exception of short intervals was perfectly clear. Being engaged, however, in other observations, I did not commence to observe the meteors until 12 o'clock, when the great shower had already begun. I was placed at a window facing due east, and the number of meteors in the following table refers only to those visible in that part of the heavens.

Number of Meteors.

h	m	m		h	m	m	
12	0	— 5	46	13	25	— 30	30
	5	10	89		30	35	27
	10	15	115		35	40	23
	15	20	112		40	45	19
	20	25	147		45	50	14
	25	30	172		50	55	10
	30	35	216		Cloudy		
	35	40	248	14	5	10	10
	40	45	189		15	20	13
	45	50	136		20	25	17
	50	55	152		25	30	10
	55	0	80		30	35	11
13	0	5	59		35	40	15
	5	10	Cloudy		40	45	11
	10	15	51		45	50	Cloudy
	15	20	44		50	55	10
	20	25	32		55	60	9

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